APPENDIX L: AIR QUALITY

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Introduction

Table 3 in the Air Quality Section of the DEIS (Section 3.2.4) was created to support the statement in the introductory paragraph: "of all potential sources of air pollution from management activities that occur on the Nez Perce-Clearwater, smoke is the most substantial contributor to air quality and visibility." The methodology for quantifying the impacts from smoke to air quality and visibility is described below.

Methodology: Data and Information Sources for Emissions Analyses

Air quality emissions data was obtained and aggregated by functional category to quantify emissions differences by emission source to determine the impact from to air quality and visibility on the Nez Perce-Clearwater National Forest. Data quantifying air quality emissions by source was obtained from the Environmental Protection Agency's 2014 National Emissions Inventory (https://www.epa.gov/air-emissions-inventories/national-emissions-inventory-nei). At the time of this report, the Environmental Protection Agency's 2017 National Emissions Inventory only included data for stationary sources; therefore, the in-progress analysis was not adequate to support this report and the 2014 data was used instead. The Environmental Protection Agency's 2014 National Emissions Inventory includes emissions information from both criteria and hazardous air pollutants; however, this analysis focused solely on criteria air pollutants. Smoke from wildfires can contain many potential air pollutants, but criteria air pollutants are six common air pollutants for which the Environmental Protection Agency sets National Ambient Air Quality Standards, which effectively creates time series concentrations of emissions for the protection of public health. On the other hand, hazardous air pollutants are regulated via emissions controls with maximum available control technology. The National Ambient Air Quality Standards for criteria air pollutants and their associated standards are detailed in Table 1 of the Draft Environmental Impact Statement Air Quality section. Criteria air pollutant emissions, measured in tons per year, were obtained from all emission sources in the three Idaho counties – Idaho, Clearwater, and Shoshone – that contain the Nez Perce-Clearwater National Forest. Emissions are aggregated by source into 60 distinct emission inventory source categories by county. The emission source categories are coded into 'functional' groups to determine which U.S. Forest Service management activities would have the potential greatest impact on ambient air quality and visibility, as measured by quantity of emissions of all criteria air pollutants.

Cross-Walk from EPA 2014 NEI category to Air Quality DEIS Functional category

Appendix Table 1 shows how the 60* emission source categories were aggregated to support Table 3's functional categories: fire, natural, and other. These three categories were used because it delineates emissions from all planned and unplanned fire sources that could be significantly impacted by U.S. Forest Service management decisions, natural sources (soil and vegetation biogenics), and all other sources including agricultural, industrial, fuel combustion, mobile sources, and residential emissions that are not directly influenced by U.S. Forest Service management activities.

*Please note that the three Nez Perce-Clearwater counties did not contain emissions inventories for all 60 categories, so only the categories that had emissions (tons/year) were included in Table 1.

Table 1. 60* emission source categories were aggregated to support Table 3's functional categories: fire, natural, and other

User created 'functional' category to support Air Quality DEIS Table 3	EPA defined Emission Inventory System source category per 2014 NEI
Fire	Fires - Wildfires
	Fires - Prescribed Fires
Natural	Biogenics - Vegetation and Soil
Other	Agriculture - Crops & Livestock Dust
	Agriculture - Fertilizer Application
	Agriculture - Livestock Waste
	Bulk Gasoline Terminals
	Commercial Cooking
	Dust - Construction Dust
	Dust - Paved Road Dust
	Dust - Unpaved Road Dust
	Fires - Agricultural Field Burning
	Fuel Comb - Comm/Institutional - Biomass
	Fuel Comb - Comm/Institutional - Coal
	Fuel Comb - Comm/Institutional - Natural Gas
	Fuel Comb - Comm/Institutional - Oil
	Fuel Comb - Industrial Boilers, ICEs - Biomass
	Fuel Comb - Industrial Boilers, ICEs - Coal
	Fuel Comb - Industrial Boilers, ICEs - Natural Gas
	Fuel Comb - Industrial Boilers, ICEs - Oil
	Fuel Comb - Industrial Boilers, ICEs - Other
	Fuel Comb - Residential - Natural Gas
	Fuel Comb - Residential - Oil
	Fuel Comb - Residential - Wood
	Gas Stations
	Industrial Processes - Mining
	Industrial Processes - NEC
	Industrial Processes - Pulp & Paper
	Industrial Processes - Storage and Transfer
	Miscellaneous Non-Industrial NEC
	Mobile - Aircraft
	Mobile - Locomotives
	Mobile - Non-Road Equipment - Diesel
	Mobile - Non-Road Equipment - Gasoline
	Mobile - Non-Road Equipment - Other
	Mobile - On-Road Diesel Heavy Duty Vehicles
	Mobile - On-Road Diesel Light Duty Vehicles
	Mobile - On-Road non-Diesel Heavy Duty Vehicles
	Mobile - On-Road non-Diesel Light Duty Vehicles
	Solvent - Consumer & Commercial Solvent Use
	Solvent - Degreasing
	Solvent - Dry Cleaning

Results: Emissions by Functional Category

Quantity of emissions from the six criteria air pollutants was totaled by functional category to create Table 3 from the DEIS, which is reproduced below. Note that fire does not include agricultural burns and that it is a larger source of criteria air pollutant emissions than all other categories combined.

DEIS Table 3. CAP emissions by functional source in Idaho, Clearwater, and Shoshone counties.

Source	CAP Emissions (Tons)
Fire	550,930
Natural	220,295
All other sources	40,891